



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,560	02/14/2005	Christophe Bureau	265682US2XPCT	9114
22850	7590	06/02/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			TAYLOR, EARL N	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 06/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/524,560	BUREAU ET AL.	
	Examiner	Art Unit	
	Earl N. Taylor	2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2005 to 7 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-79 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 33-40, 54, 58, 59 and 74 is/are rejected.
- 7) ☒ Claim(s) 41-53, 55-57, 60-73 and 75-79 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. This office acknowledges receipt of the following items from the applicant:
Information Disclosure Statements (IDS) filed on 4 May 2005 and 7 November 2005.
The references cited on the PTOL 1449 forms have been considered.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "**said**," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is

Art Unit: 2818

requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

5. Claim 34- 79 are objected to because of the following informalities:

Referring to Claims 34-62 and 74-76: Recitation of "An (an) electromechanical microstructure" should read --The (the) electromechanical microstructure--

Referring to Claims 63-73: Recitation of "a series of microstructures" should read --a series of the electromechanical microstructures--

Referring to Claims 77-79: Recitation of "A microsystem" should read --The microsystem--

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 33-52, 54-57, 60, 61, 63-72 74-76 and 78 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 33-40 recite the limitation "the first film". There is insufficient antecedent basis for this limitation in the claim.

Claims 41-44 recite the limitations "the mechanical part", "the first material" and "the second film". There is insufficient antecedent basis for these limitations in the claim.

Claim 45 recites the limitation "the mechanical part". There is insufficient antecedent basis for these limitations in the claim.

Claim 46 recites the limitations "the mechanical part", "the first and second materials" and "the third film". There is insufficient antecedent basis for these limitations in the claim.

Claim 47 recites the limitations "the mechanical part", "the first material" and "the third film". There is insufficient antecedent basis for these limitations in the claim.

Claim 48 recites the limitations "the mechanical part", "the material", "the second part" and "the fourth film". There is insufficient antecedent basis for these limitations in the claim.

Claim 49 recites the limitations "the mechanical part", "the material", "the second part" and "the third film". There is insufficient antecedent basis for these limitations in the claim.

Claim 50 recites the limitations "the second mechanical part" and "the second part". There is insufficient antecedent basis for these limitations in the claim.

Claim 51 recites the limitations "the first part" and "the first and second parts". There is insufficient antecedent basis for these limitations in the claim.

Claim 52 recites the limitations "the first part", "the first and second parts" and "the third part". There is insufficient antecedent basis for these limitations in the claim.

Claim 54 recites the limitation "the insulating layer". There is insufficient antecedent basis for this limitation in the claim.

Claims 55-57 recite the limitations "the first material" and "the mechanical part". There is insufficient antecedent basis for these limitations in the claim.

Claims 60 and 61 recite the limitation "the second film". There is insufficient antecedent basis for this limitation in the claim.

Claims 63-66 recite the limitation "the mechanical parts". There is insufficient antecedent basis for this limitation in the claim.

Claim 67 recites the limitations "the first film" and "the mechanical part". There is insufficient antecedent basis for these limitations in the claim.

Claims 68 and 69 recite the limitations "the second film" and "the mechanical part". There is insufficient antecedent basis for these limitations in the claim.

Claim 70 recites the limitations "the first and third films" and "the mechanical part". There is insufficient antecedent basis for these limitations in the claim.

Claims 71 and 72 recite the limitations "the mechanical parts" and "the second parts". There is insufficient antecedent basis for these limitations in the claim.

Claim 74 recites the limitation "the deformable part". There is insufficient antecedent basis for these limitations in the claim.

Claims 75, 76 and 78 recite the limitation "the film of the annular zone". There is insufficient antecedent basis for these limitations in the claim.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 33-40, 54, 58, 59, 74 are rejected under 35 U.S.C. 102(b) as being anticipated by Kaplan (U.S. Pat. 6,331,163 B1).

In so far as definite, referring to Claim 33, Kaplan discloses, in Fig. 15, an electromechanical microstructure comprising; a first mechanical part formed in a first electrically conductive material, and which comprises a zone deformable (38) in an elastic manner having a thickness value and an exposed surface and a first organic film (150) having a thickness, present on a whole of the exposed surface of the deformable zone (38), wherein the first organic film (150) is bonded in a covalent manner to the exposed surface of the deformable zone (38) and formed from an electro-initiated reaction (Col. 13, lines 37-67; Col. 14, lines 37-56).

In so far as definite, referring to Claims 34, 35 and 36, Kaplan discloses all of the limitations of Claim 33 wherein the first organic film is preferably thin, uniform and flexible enough so as not to interfere with the sensitivity of the sensor (elastic response) (Col. 3, lines 49-53). Moreover, Kaplan states:

“Because the thickness of protective layer (organic film, 150) is smaller than that of membrane (deformable zone, 38), the sensitivity of membrane (38) with

Art Unit: 2818

protective layer (150) remains about the same as that of a membrane (38) provided with no protective layer (150)" (Col. 14, Lines 10-14).

Therefore the thickness of the first organic film (150) is such that elastic response of the deformable zone (38) equipped with the first organic film (150) is approximately zero and therefore does not change by more than 5% compared to a response of a bare deformable zone. Furthermore, Kaplan discloses all of the limitations of Claims 33 and 34, wherein the thickness of the first organic film (150) is such that elastic response of the deformable zone (38) equipped with the first film does not change by more than 1% for reasons discussed.

In so far as definite, referring to Claims 37, 38 and 39, Kaplan discloses all of the limitations of Claims 33 wherein the first organic film (150) is disposed over the entire exposed surface of the deformable zone (Col. 14, lines 56 to Col. 15, line 2). Therefore, a level of cover of the exposed surface by the first organic film (150) is greater than 60% and furthermore greater than 90%.

In so far as definite, referring to Claim 40, Kaplan discloses all of the limitations of Claims 33 and 35, wherein the first organic film (150) includes a layer of a molecule of fixed length.

In so far as definite, referring to Claim 54, Kaplan discloses all of the limitations of Claim 33 wherein the microstructure comprises a recess (34) situated immediately underneath the deformable zone (38).

In so far as definite, referring to Claims 58 and 59, Kaplan discloses all of the limitations of Claim 33 and 34 wherein the first organic film (protective layer, 150) is in a

Art Unit: 2818

material such that the exposed surface of the deformable zone (38) covered with this film has biocompatibility, non cytotoxicity, and/or anti-adhesion or cellular anti-proliferation functions (Col. 3, Lines 43-60).

In so far as definite, referring to Claim 74, Kaplan discloses all of the limitations of Claim 33 wherein a microsystem (30) comprising the electromechanical microstructure is electrically assembled with a front face turned round on an interconnection support (32) comprising an opening (34) facing the deformable zone (38) of the microstructure.

Allowable Subject Matter

9. Claims 41-53, 55-57, 60-73 and 75-79 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

10. The following is an examiner's statement of reasons for allowance:

The prior art of record neither discloses nor in combination teach the claimed invention set forth in Claims 41 and 42 so far as definite, further comprising at a surface of the mechanical part, an annular zone, surrounding the exposed surface, having itself a surface and formed in a second electrically conductive material, different in a sense of the electro-initiated reaction from the first material of the mechanical part, and wherein a second organic film is present on the surface of the annular zone, the second film being a film formed in a material that may be deposited from an electro-initiated chemical

Art Unit: 2818

reaction. Claims 45, 46, 48, 50, 52, 57, 60-62, 65, 66, 71, 72 and 75-78 include the limitations thereof.

In so far as definite, referring to Claims 43 and 44, wherein the first material constituting the mechanical part is a doped semi-conductor, and comprising at a surface of the mechanical part, an annular zone, surrounding the exposed surface, having itself a surface and formed in a second material formed by doping of type opposite to that of the first material, and wherein a second organic film is present on the surface of the annular zone, the second film being a film formed in a material that may be deposited from an electro-initiated chemical reaction. Claims 47, 49, 51, 53 and 67-70 include the limitations thereof.

In so far as definite, referring to Claims 55 and 56 wherein the first electrically conductive material is a doped semi-conductor, and wherein a doping of a type opposite to that of the first electrically conductive material defines an electrode contact at a surface of the mechanical part outside of the exposed surface. Claim 73 includes the limitations thereof.

In so far as definite, referring to Claims 63 and 64, having a wafer comprising a series of these electromechanical microstructures wherein a first shared electrode electrically connects all of the first mechanical parts between the microstructures.

In so far as definite, referring to Claim 79, a microsystem wherein the support is formed from a wafer in silicon, and comprising a probe connected to a dedicated electronic component itself assembled on the support.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Telephone / Fax Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Earl N. Taylor whose telephone number is (571) 272-8894. The examiner can normally be reached on Monday-Friday from 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MinSun Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner: Earl N. Taylor


ANDY HUYNH
PRIMARY EXAMINER